

REMARKS

Reconsideration and allowance of the above-referenced application are respectfully requested.

I. STATUS OF THE CLAIMS

Claims 1-2, 11-12 and 22 are amended herein.

In view of the above, it is respectfully submitted that claims 1-17 and 20-25 are currently pending and under consideration in the present application.

II. REJECTION OF CLAIMS 1-17 and 20-25 UNDER 35 U.S.C. § 103(a) AS BEING UNPATENTABLE OVER ROWE (USP# 5,479,190) IN VIEW OF SIDDIQUI (USP# 5,912,661)

The present invention as recited in claim 1 (as amended herein), for example, a coordinate input device comprising “a plurality of rotating bodies, each of the rotating bodies disposed along a corresponding one of the plural sides and rotating along with the corresponding one of the plural sides of said polygonal wheel about the first axis and each of the rotating bodies rotatable about the corresponding one of the plural sides of said polygonal wheel as a second axis, which is different from the first axis such that the polygonal wheel and the plurality of rotating bodies rotate about the first axis” (emphasis added). That is, the circumferential edge of the polygonal wheel having plural sides rotates about the first axis and each of the rotating bodies rotates along with a corresponding one of the plural sides of said polygonal wheel about the first axis, and, furthermore, each of the rotating bodies is rotatable about the corresponding one of the plural sides as a second axis. This means, according to the present invention, that each of the rotating bodies corresponds to one side of the plural sides of the polygonal wheel such that not only is a user capable of rotating the polygonal wheel about a first axis, but also, of rotating the rotating bodies about a second axis. Moreover, although Applicant believes it is clear from the language of claim 1 (i.e., from the recitation of “rotating along with the corresponding one of the plural sides of said polygonal wheel about the first axis”) that the polygonal wheel rotates about the first axis, the Applicants have now amended claim 1 to clarify that “the polygonal wheel ... rotate[s] about the first axis.” Accordingly, multi-axial signals may be generated from not only the polygonal wheel rotates about a first axis, but also the movement of the rotating bodies rotates about a second axis (i.e., which is defined by a rotation of each of the rotating bodies about a corresponding one of the plural sides; emphasis added).

Rowe '190

In the Office Action at page 2, lines 13-14, the Examiner contends that Rowe teaches “an input device having a polygonal wheel structure by disclosing a multi-axis continuous loop 150 or boundaryless input device for control of a pointer or cursor ...” (emphasis in original).

Applicants respectfully disagree with the Examiner, since the multi-axis continuous loop 150 is not a polygonal wheel. The Examiner is requested to review a copy of a definition of “wheel” provided herewith. A wheel must be capable of turning on an axial (i.e., axis). The multi-axis continuous loop 150 of Rowe does not turn (i.e., a band 152 is fixed). In the Rowe device only the grooved segments 154 rotate. Furthermore, and more particularly, this means in the Rowe device that each of the rotating bodies does not rotate along with a corresponding one of the sides of the polygonal wheel, since the band 152 of Rowe is fixed and will not rotate. This is supported by the disclosure of Rowe at column 8, line 8 to column 9 line 59 and FIG. 13 in which grooved segments 154 are slidably mounted on band 152 and may be freely moved along the entire course of band 152 in the direction indicated by Arrow “M.” Further, the grooved segments also may be rotated on band 152 in the direction indicated by Arrow “R”.

Siddiqui '661

Siddiqui discloses “a computer input device with a ... wheel button type z-encoder mechanism. The wheel button is supported on an axle or spindle within the housing of the input device. The axle is supported in the housing by spaced-apart axle supports.” (See Siddiqui at column 2, lines 3-8.) However, Siddiqui, does not disclose “a plurality of rotating bodies” (see claim 1) and, more particularly, Siddiqui does not suggest anything related to each of the rotating bodies rotatable about the corresponding one of the plural sides of said polygonal wheel as a second axis.

In light of the above, it is respectfully submitted that Rowe and Siddiqui, either alone or in combination, do not teach or suggest the features as recited in claim 1 of the present invention. Moreover, it would not have been obvious to a person of ordinary skill in the art to combine the teachings of Rowe and Siddiqui to disclose the features recited in claim 1.

Similar to claim 1, claims 2, 11 and 12 recite “a plurality of rotating bodies, each of the rotating bodies disposed along a corresponding one of the plural sides and rotating along with the corresponding one of the plural sides of said polygonal wheel about the first axis and each of the rotating bodies rotatable about the corresponding one of the plural sides of said polygonal wheel as a second axis, which is different from the first axis such that the polygonal wheel and

the plurality of rotating bodies rotate about the first axis,” which distinguishes over the cited prior art.

Claim 22 relates to a coordinate input device comprising “a polygonal wheel having plural sides, the polygonal wheel being rotatable about a center thereof, as a first axis, each of the plural sides of the polygonal wheel couples to a respective one or ones of the plurality of rotating bodies such that each of the rotating bodies rotates with the corresponding one of the plural sides about the first axis, and is rotatable about the corresponding one of the plural sides of said polygonal wheel, as a second axis, which is different from the first axis such that the polygonal wheel and the plurality of rotating bodies rotate about the first axis.”

Claim 24 relates to a coordinate input device comprising “a polygonal wheel having plural sides to rotate in a first direction, each of the rotating bodies being rotationally attached to a corresponding one of the plural sides to rotate in a second direction perpendicular to the first direction for multi-axial coordinate input.”

Claim 25 relates to a coordinate input device comprising “a polygonal wheel having rotating bodies thereon rotating in a direction perpendicular to a wheel rotation direction for multi-axial coordinate input.”

Therefore, claims 22, 24 and 25 also distinguish over the cited prior art.

Claims 3-10, claims 13-17, 20 and 21, and claim 23 depend from claims 1, 11 and 22, respectively. Thus, for at least the reason that claims 1, 11 and 22 distinguish over the cited prior art, it is respectfully submitted that claims 3-10, 13-17, 20, 21 and 23 also distinguish over the cited prior art.

III. CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that each of the claims patentably distinguishes over the prior art, and therefore defines allowable subject matter. A prompt and favorable reconsideration of the rejection along with an indication of allowability of all pending claims are therefore respectfully requested.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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wheel[1,noun]
wheel[2,verb]
balance wheel
big wheel
buffing wheel
cam wheel



Main Entry: **¹wheel** 🗣️

Pronunciation: 'hwE (&) l, 'wE (&) l

Function: *noun*

Usage: *often attributive*

Etymology: Middle English, from Old English *hweogol*, *hwEol*; akin to Old Norse *hvEl* wheel, Greek *kyklos* circle, wheel, Skt *cakra*, Latin *colere* to cultivate, inhabit, Sanskrit *carati* he moves, wanders

1 : a circular frame of hard material that may be solid, partly solid, or spoked and that is capable of turning on an axle

2 : a contrivance or apparatus having as its principal part a wheel: as **a** : a chiefly medieval instrument of torture designed for mutilating a victim (as by stretching or disjointing) **b** : **BICYCLE** **c** : any of many revolving disks or drums used as gambling paraphernalia **d** : **POTTER's wheel** **e** : **STEERING WHEEL**

3 a : an imaginary turning wheel symbolizing the inconstancy of fortune **b** : a recurring course, development, or action : **CYCLE**

4 : something resembling a wheel in shape or motion: as **a** : a round flat cheese **b** : a firework that rotates while burning **c** : a propeller on a boat

5 a : a curving or circular movement **b** : a rotation or turn usually about an axis or center; *specifically* : a turning movement of troops or ships in line in which the units preserve alignment and relative positions as they change direction

6 a : a moving or essential part of something compared to a machine <the *wheels* of government> **b** : a directing or controlling force **c** : a person of importance especially in an

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organization <a big *wheel*>

7 : the refrain or burden of a song

8 a : a circuit of theaters or places of entertainment **b** : a sports league

9 plural, slang : a wheeled vehicle; *especially* :

AUTOMOBILE

- **wheel less**  /'hwE(&)l-l&s, 'wE(&)l-/ *adjective*

[wheel illustration]

For **More Information on "wheel" go to Britannica.com**

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